

What is claimed is:

1. A clamp for holding an item to an electrically conductive structure, the clamp comprising:

5 a strap having structural strength and being adapted to receive and hold the item, said strap being electrically conductive;

a fastener operatively coupled to said strap and adapted to secure said strap to the structure;

10 a cushion disposed over at least a portion of said strap, said cushion being adapted to at least partially isolate the item from shock and vibration transmitted through said strap; and

a conductive material coupled to at least at a portion of an inner surface of said cushion and adapted to be positionable proximate the item, said conductive material being electrically coupled to said strap.

2. The clamp of Claim 1, wherein said strap comprises an electrically conductive material.

15 3. The clamp of Claim 2, wherein said strap is constructed with metal.

4. The clamp of Claim 3, wherein said cushion includes rubber.

5. The clamp of Claim 1, wherein said cushion includes an interior surface and wherein said conductive material comprises a metallic strip coupled to said interior surface of said cushion.

20 6. The clamp of Claim 5, wherein said strap includes a securement portion configured to receive said fastener, said metallic strip being electrically coupled to said strap.

7. The clamp of Claim 1, wherein said cushion includes an interior surface and wherein said conductive material comprises metallic stitching within said cushion, at least a portion of said stitching being exposed to the interior surface of said cushion.

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8. The clamp of Claim 1, wherein said conductive material comprises a metal impregnated cushion.

9. The clamp of Claim 8, wherein said cushion comprises rubber.

10. The clamp of Claim 1, wherein said strap is formed into a "P" shape.

5 11. The clamp of Claim 1, wherein said strap includes two parts coupled together to encircle the item.

12. The clamp of Claim 11, wherein said strap is formed into a "D" shape.

13. The clamp of Claim 12, wherein said cushion is secured to said two parts.

14. A holder for holding an electrically conductive object to a structure, the holder comprising:

a cushion material arranged to contact the object on one side thereof; and
an electrically conductive material coupled to said cushion material and having at least a portion thereof on the side of said cushion for contact with the object, said electrically conductive material being arranged for electrical connectivity to the structure.

15. The holder of Claim 14, further comprising a bracket to which said cushion material is secured, said bracket providing structure to hold said object.

16. The holder of Claim 15, further comprising a fastener coupled to said bracket and securable to the structure.

20 17. The holder of Claim 16, wherein said strap is electrically coupled to said conductive material.

18. The holder of Claim 16, wherein said bracket comprises a clamp, said cushion material being disposed within said clamp, said cushion material arranged to be at least partially disposed between the object and the clamp.

19. The holder of Claim 18, wherein said clamp is substantially P-shaped.
20. The holder of Claim 18, wherein said clamp is substantially D-shaped.
21. The holder of Claim 18, wherein said clamp is substantially U-shaped.
22. The holder of Claim 14, wherein said electrically conductive material comprises metallic
5 threads at least partially disposed within said cushion.
23. The holder of Claim 14, wherein said electrically conductive material comprises a strip of metal disposed on the side of said cushion material for contact with the object.
24. The holder of Claim 14, wherein said electrically conductive material comprises thin
10 metal wire embedded in said cushion material.
25. The holder of Claim 14, where said electrically conductive material comprises a metal impregnated cushion material.
- 15 26. The holder of Claim 24, wherein said metal wire contacts the object when said cushion material is at least partially compressed.
27. An aircraft, comprising:
 - a fuselage operatively coupled to an airframe;
 - 20 a propulsion system operatively coupled to the airframe;
 - an electrically conductive conduit disposed within the fuselage; and
 - at least one clamp operatively coupled to the conduit and secured to a portion of
the airframe, the clamp comprising:
 - a strap member at least partially disposed about the conduit;
 - 25 a fastener operatively coupled to said strap and to the portion of the airframe, said strap being electrically conductive;
 - a cushion disposed over at least a portion of said strap and disposed between the strap and the conduit, said cushion being adapted to at

least partially isolate the conduit from shock and vibration transmitted through said strap; and

a conductive member coupled to at least at a portion of said cushion and engaged with the conduit, said conductive member being electrically coupled to said strap.

28. The aircraft of Claim 27, wherein said strap comprises an electrically conductive material.

10 29. The aircraft of Claim 27, wherein said cushion includes an interior surface and wherein said conductive material comprises a metallic strip coupled to said interior surface of said cushion.

30. The aircraft of Claim 27, wherein said cushion includes an interior surface and wherein said conductive material comprises metallic stitching within said cushion, at least a portion of said stitching being exposed to the interior surface of said cushion.

15 31. The aircraft of Claim 27, wherein said conductive material comprises embedded thin wire within said cushion.

32. The aircraft of Claim 27, wherein said conductive material comprises metal impregnated cushion material.

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33. A method of securing an item to an electrically conductive structure, comprising:
coupling a conductive material to a cushioning material;
securing the cushioning material to an elongate strap, at least a portion of the strap being conductive, the conductive material being coupled to the conductive portion of the strap;

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at least partially encircling the item to be secured by the elongate strap, the cushioning material being placed between the elongate strap and the item, the conductive material contacting the item; and
5 fastening the elongate strap to the structure with a fastener, the conductive portion of the strap contacting the conductive structure.

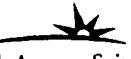
34. The method of Claim 33, wherein coupling a conductive material to a cushioning material comprises securing a metallic strip to an inner surface of the cushioning material.
35. The method of Claim 33, wherein coupling a conductive material to a cushioning material comprises stitching a metallic material into the cushioning material.
- 10 36. The method of Claim 33, wherein coupling a conductive material to a cushioning material comprises embedding a thin wire into the cushioning material.
37. The method of Claim 33, wherein coupling a conductive material to a cushioning material comprises metal impregnating a cushioning material.
- 15 38. The method of Claim 33, wherein the elongate strap forms a clamp.
39. The method of Claim 38, wherein the clamp is formed from a metallic band.
40. The method of Claim 39, wherein the conductive material contacts the metal band.

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